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Economic and commercial analysis of the shrimp fishing industry in the Gulf of St-Lawrence,1990

Economic and Commercial
Analysis Report n° 83

Pêches et Océans
Fisheries and Oceans

Canada

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PREFACE

This report is intended to inform those involved in the Canadian fisheries industry of the shrimp-fishing situation in the Gulf of St. Lawrence in 1990. It contains a description of the economic and commercial context facing the shrimp fishery. Readers will find information on world markets (tertiary sector) and the shrimp fleets fishing in the Gulf of St. Lawrence (primary sector). All this data should lead to a better understanding of how these two sectors are interrelated and what dynamics shape the shrimp-fishing industry in Canada.

Statistics on the Gulf fishing industry are from Fisheries and Oceans Canada, Statistics & Informatics and Economic Services Divisions, Quebec and Gulf Region. Data on markets was obtained from various sources, including the DFO Economic and Commercial Analysis Directorate in Ottawa. We would like to take this opportunity to thank the personnel of these divisions and the directorate for their cooperation and assistance.

Charles Cantin
Economic Services Division
Department of Fisheries and Oceans
Quebec Region, January 1991

ABSTRACT

The world shrimp industry has changed considerably over the past few years. Cultured tropical shrimp is taking an increasingly large share of all markets, whether Japanese, European or American. On the American market, where consumers make little distinction between products, the price of cold-water shrimp has followed the declining price of warm-water shrimp, while in Europe and particularly in Japan the cold-water shrimp market offers good opportunities. This world market situation has affected the Gulf shrimp industry. For fishermen, it has been reflected by a decrease in landing prices. Two fleet sectors, Quebec and Newfoundland, have thus recorded a decrease in their financial performance. For the New Brunswick fleet, the higher level of landings has compensated for the decline in prices and produced a rise in income for skipper/owners.

SOMMAIRE EXÉCUTIF

L'industrie mondiale de la crevette est, depuis quelques années, en métamorphose. Sur tous les marchés, qu'ils soient japonais, européens ou américains, la crevette tropicale de source aquicole est de plus en plus omniprésente. Sur le marché américain, où les produits semblent peu différenciés, le prix de la crevette nordique suit la tendance à la baisse du prix de la crevette d'eau chaude. Par contre, en Europe et surtout au Japon, le marché de crevette nordique offre des opportunités intéressantes. Cette situation sur les marchés mondiaux a affecté l'industrie de la pêche à la crevette dans le Golfe. Au chapitre des pêcheurs ceci se répercuta par une baisse du prix au débarquement. Deux flottes, celle du Québec et celle de Terre-Neuve ont ainsi enregistré une baisse de leur performance financière. Pour la flotte du Nouveau-Brunswick la hausse des débarquements enregistrés en 1990 a compensé la baisse de prix, se traduisant par une augmentation des revenus des capitaines-propriétaires de ces crevettiers.

TABLE OF CONTENTS

PREFACE i

ABSTRACT ii

TABLE OF CONTENTS iii

LIST OF TABLES iv

INTRODUCTION 1

1. THE TERTIARY SECTOR 2

1.1 WORLD SHRIMP SUPPLY: ALL SPECIES 2

1.2 WORLD SUPPLY OF COLD-WATER SHRIMP 4

1.3 DEMAND FOR CANADIAN SHRIMP 6

1.3.1 JAPANESE DEMAND AND PRICES 7

1.3.2 EUROPEAN DEMAND AND PRICES 9

1.3.3 U. S. DEMAND AND PRICES 10

1.4 INTRODUCTION AND IMPACT OF CULTURED SHRIMP . . 12

2. THE PRIMARY SECTOR 13

2.1 THE QUEBEC SHRIMPER FLEET 13

2.1.1 LANDING PRICES 13

2.1.2 FINANCIAL PERFORMANCE 1989 AND EXTRAPOLATED 1990 13

2.2 THE NEW BRUNSWICK SHRIMPER FLEET 13

2.2.1 LANDING PRICES 13

2.2.2 FINANCIAL PERFORMANCE 1989 AND EXTRAPOLATED 1990 13

2.3 THE NEWFOUNDLAND SHRIMPER FLEET 13

2.3.1 LANDING PRICES 13

2.3.2 FINANCIAL PERFORMANCE 1989 AND EXTRAPOLATED 1990 13

LIST OF TABLES

1. Trends in world shrimp production

2. Countries producing cultured shrimp (percentage of world production, production in metric tonnes, hectares in production and yield per hectare) in 1989

3. Breakdown of cultured shrimp production by species in 1989

4. Landings of cold-water shrimp, main producing countries, 1983-1989

5. Trends in Canadian exports of cold-water shrimp, by country (1985-1989)

6. U.S. imports of all types of shrimp, in thousands of metric tonnes, by main exporting country, 1984-1989p

7. U.S. imports of shelled and unshelled, fresh or frozen, cold-water and warm-water shrimp, by selected exporting countries, 1985-1989

8. Price trends for selected cold-water shrimp products, 1984-1990

9. Price trends for cultured shrimp, 1987-1990, for selected products

10. Japanese imports of cold-water shrimp, in thousands of metric tonnes, by main exporting country, 1984-1989p

List of tables (cont'd.)

11. Japanese imports of all types of shrimp, in thousands of metric tonnes, by main exporting country, 1984-1989p

12. Price trends for cold-water shrimp on the Japanese market

13. Catch record of Quebec shrimpers under 100' and average price per kilo paid to fishermen (1981-1990p)

14. Catch record of New Brunswick shrimpers under 100' and average price per kilo paid to fishermen (1981-1990p)

15. Catch record of Newfoundland shrimpers under 100' and average price per kilo paid to fishermen (1981-1990p)

16. Gulf of St. Lawrence landings of shrimp by species (average fishing enterprise) and by province, 1989

17. Income statement of Gulf of St. Lawrence shrimpers (average fishing enterprise), by province, 1989

18. Estimated cash flow of Gulf of St. Lawrence shrimpers under 100' overall length (average fishing enterprise), by province, 1990

INTRODUCTION

Based on available data, Canada may be said to be a semi-exporter of shrimp, since 50% of its production goes to markets outside Canada, with the other half being sold in Canada. In view of this, and in an attempt to determine what the future holds in terms of prices for shrimp products, the tertiary sector will have to look at trends in both national and world markets. Unfortunately, there is little statistical data available to us on consumption, prices and types of shrimp sold in Canada. We can only look at the world picture, which has a direct impact on prices for Canadian shrimp end products.

The world shrimp industry has been changing considerably in recent years. Normal price cycles have been upset by the appearance of cultured shrimp on the market. For cold-water shrimp, 1989 was characterized by an increase in supply and a drop in demand on the American market, where the preference for cultured shrimp is growing from year to year. This situation had repercussions on prices for shrimp end products, which were also down in 1989. What must be determined is whether this trend continued in 1990 and what the future holds, particularly for 1991. Our analysis will use an approach based on relations between the notions of supply and demand.

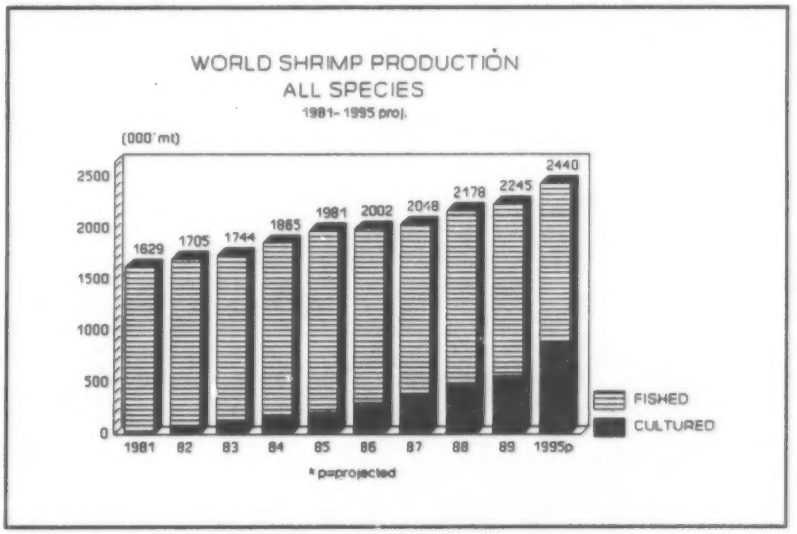
1. THE TERTIARY SECTOR

It is no longer true to say that there are separate markets for cold-water shrimp and warm-water shrimp. The appearance of cultured shrimp as a potential substitute for cold-water shrimp forces us to look at world trends in shrimp supply whatever the source.

1.1 WORLD CRAB SUPPLY: ALL SPECIES

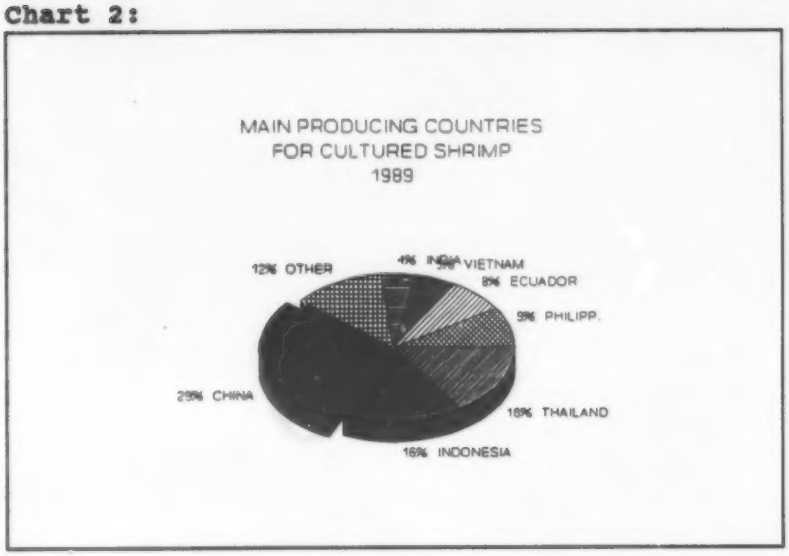
"Cargill intends to become one of the big three U.S. importers of shrimp," announced a fisheries trade journal recently. The entry into this market of agri-food giant Cargill, with sales of $43 billion, is a good indication of the potential market for this commodity. World shrimp production trends may well be one reason why Cargill sees expansion potential in shrimp.

Chart 1:



World production of shrimp has risen steadily since 1981, when it stood at 1,629,000 mt; 1989 production was 2,245,000 mt, an increase of 38% in nine years. This rise is due almost entirely to shrimp farming. Forecasts for 1995 indicate that production of cultured shrimp could reach 900,000 mt, an increase of 60%.

Chart 2:



Any fluctuation in production by the main suppliers of cultured shrimp causes markets to fluctuate. China, with 29% of production in 1989, is a good example. Cultured shrimp from China expected on the market in Fall 1990 has not yet arrived, creating upward pressure on prices for warm-water shrimp.

Let us now look at the situation for cold-water shrimp.

Chart 3:

World landings of cold-water shrimp from main producing countries have risen from 163,700 mt in 1982 to 250,400 mt in 1989, an increase of 53% for this period.

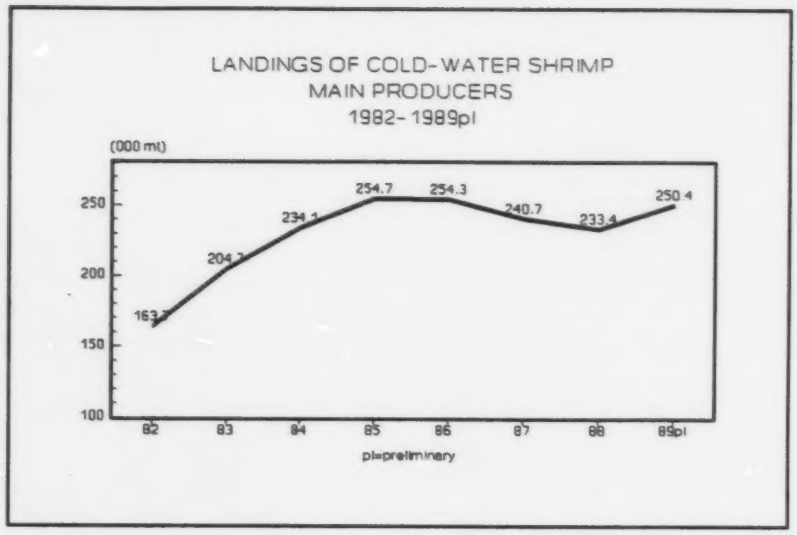
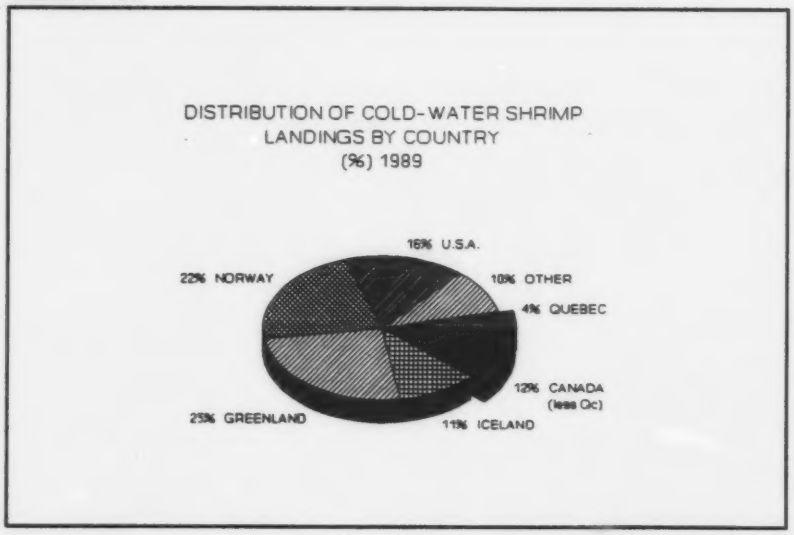


Chart 4:

Historically, Norway was the main producer of cold-water shrimp, but its share of world landings was only 22% in 1989, while that of Greenland rose to 25%. Canada, along with the United States, is in fourth place, with 16% of world landings of cold-water shrimp. Canada may thus be considered to have little influence on setting world prices.



Let us look now at the main producers of cold-water shrimp in Europe and North America.

Europe

Norway, which was the traditional leader in shrimp fishing, saw its landings decline from 91,000 mt in 1985 to 42,000 mt in 1988, although there was an upswing in 1989, up 34% over 1988. Greenland moved ahead of Norway in 1989, with landings in the 63,000 mt range.

The Soviet Union accounts for only 3.5% of world landings of cold-water shrimp, although its earlier performance had made it a potential competitor. In 1986, USSR landings were 25,000 mt. The Soviets consider shrimp an alternative to the cod fishery when landings of the latter are down. We have only to recall the arrival of shrimp from Soviet vessels in Quebec in 1984, a year when cod landings were down in northern waters.

North America

Shrimp landings by the U.S. were up over 4,000 mt in 1989. Although shrimp stocks fished in Oregon were fairly young, which might produce lower landings in 1991, landings for the U.S. as a whole seem likely to remain stable.

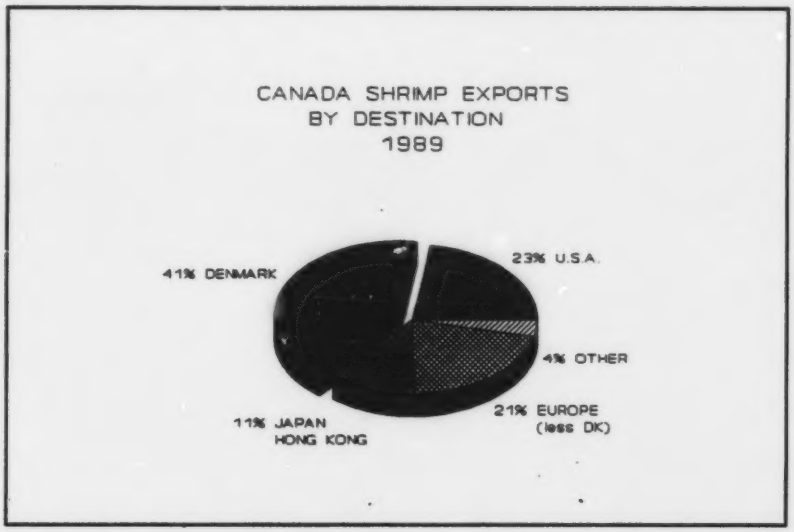
Landings of shrimp in Canada were up 24,000 mt since 1984, rising from 14,800 mt to 38,800 mt in 1989.

Based on these figures, it would appear that we are in a situation where the world supply of both cold and warm-water shrimp is strong. Supplies of warm-water shrimp will likely increase in years to come with the contribution of aquaculture,

while the supply of cold-water shrimp seems to have peaked. Although it is difficult to predict future landings, it is unlikely that landings of cold-water shrimp will increase significantly.

Since there must be a demand to match any supply, let us look now at the demand for Canadian shrimp products.

Chart 5:

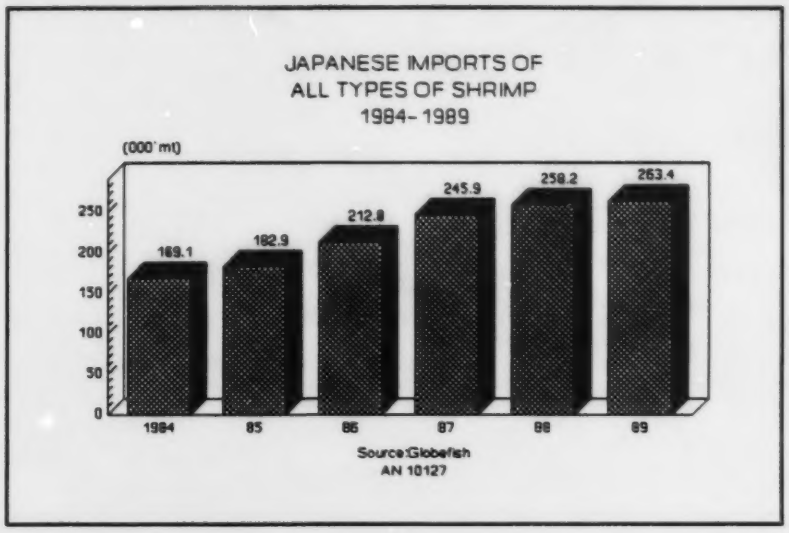


Denmark absorbed 41% of Canada's shrimp exports in 1989. The second-ranking customer was the U.S., followed by Japan, with 23% and 8.5% of exports respectively. Canadian exports of crab to the U.S. were down in 1989 and increased to Europe, Japan and Hong Kong.

We will attempt to determine demand trends through an examination of these three destinations, Japan, Europe as a whole, and the U.S.

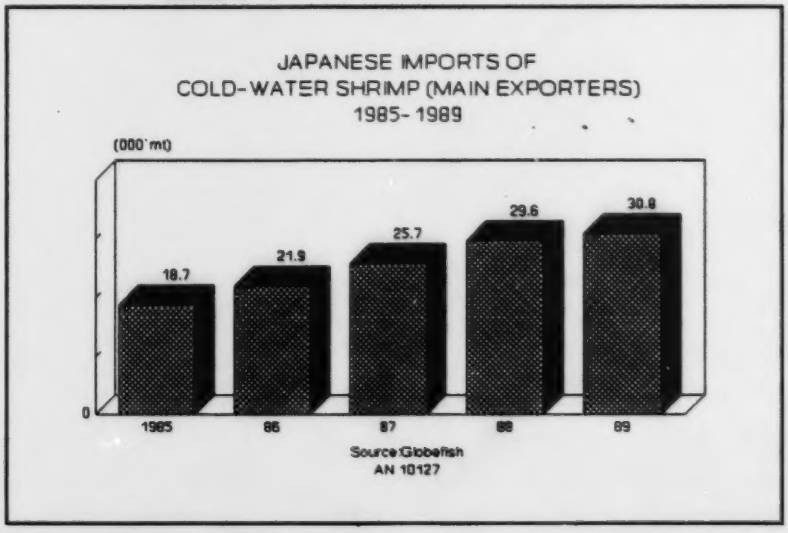
1.3.1 JAPANESE DEMAND AND PRICES

Chart 6:



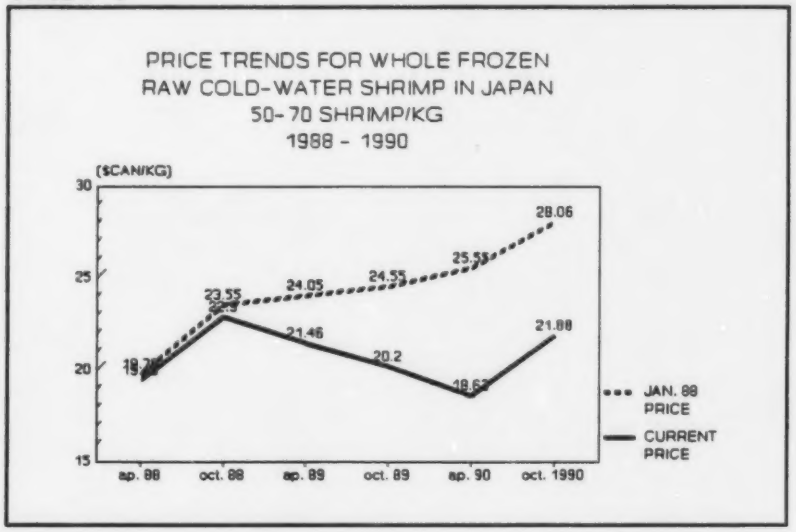
Japan, the second-ranking consumer of shrimp after the U.S., is mainly a market for tropical species. Imports have increased steadily since 1984, rising from 169,100 mt to 263,400 mt in 1989, an increase of 56%.

Chart 7



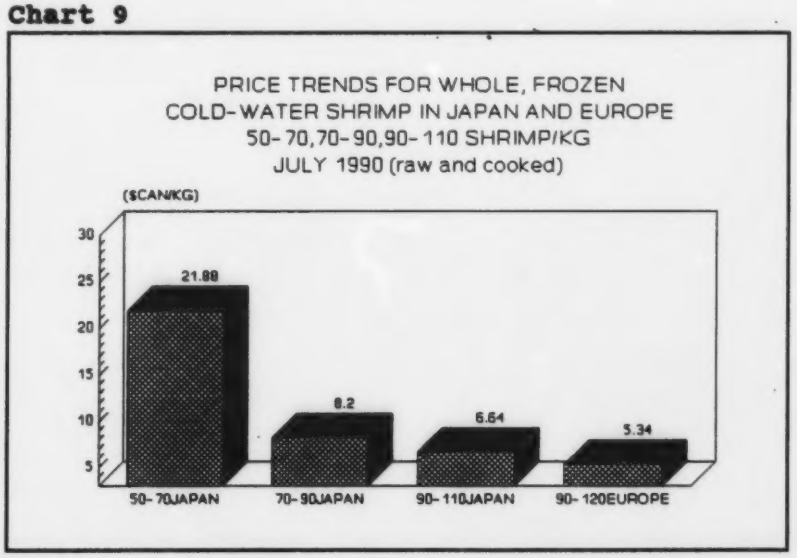
As is the case for all its imports of shrimp, Japanese imports of cold-water shrimp are on the rise, increasing from 18,700 mt in 1985 to 30,800 mt in 1989. The Japanese are fond of cold-water shrimp but, as with all seafood, they are very demanding when it comes to freshness. Their preference is for whole, raw shrimp frozen aboard ship within three hours after being taken from the water.

Chart 8



These considerations are partly responsible for the rise in prices for cold-water shrimp on this market. Prices in Japan have risen steadily since April 1988. The exchange market, however, has been unfavourable to Canada during this period (devaluation of the yen in terms of the Canadian dollar). Instead of an increase in Canadian dollar sales, Canadian exporters have to some extent experienced a decline in prices.

Chart 9



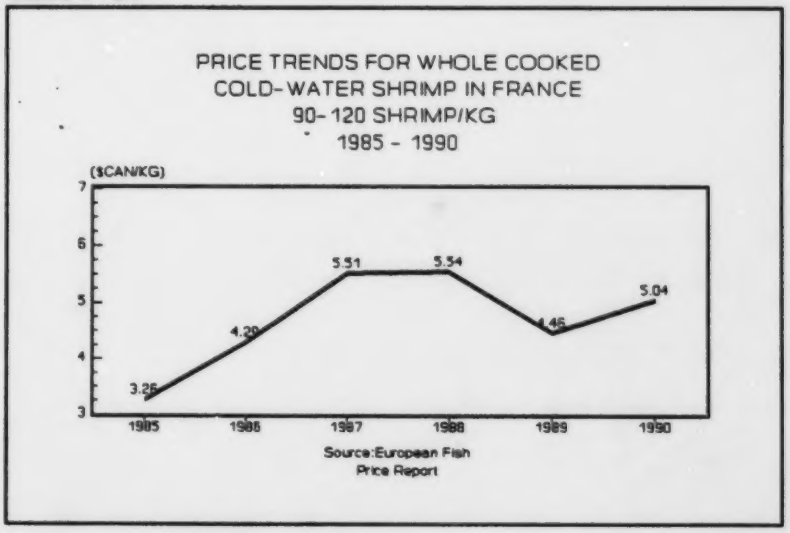
For the Canadian exporter, some shrimp products may be more advantageous to produce for the Japanese market. Prices in July 1990 for raw frozen shrimp, 90-110, 70-90 and 50-70 shrimp per kg, were $Can 6.64/kg, $Can 8.20/kg and $Can 21.88/kg. It should be noted that the European price for shrimp (90-120 cooked shrimp per kg) in July 1990 was $Can 5.34/kg. Requirements which obviously have a direct impact on

production costs are not the same for products destined for Japan as for those exported to Europe, but the price differential on these two markets would make it advantageous to explore this avenue.

1.3.2 EUROPEAN DEMAND AND PRICES

Shrimp consumption on the European market is also on the rise, as demonstrated by the increase of imports, which rose from 256,000 mt in 1987 to 311,000 mt, an increase of 21% in two years. The European market for shrimp is mainly for cold-water shrimp but, since supply of cold-water shrimp has practically peaked, the increased consumption has been met with cultured shrimp, as well as with an increase in the price of cold-water shrimp.

Chart 10



Thus, after a decline in prices in 1989 due to consumer resistance to price increases in previous years and the possibility of bringing in supplies of warm-water shrimp, the price of cold-water shrimp again rose by 13% in 1990.

1.3.3 U. S. DEMAND AND PRICES

The United States, like Japan, is a market for tropical shrimp and, to a lesser extent, for cold-water shrimp.

Chart 11

The American demand for all types of shrimp, in terms of imports, is on the rise. From 155,200 mt in 1984, it has increased 47% to 228,600 mt in 1989.

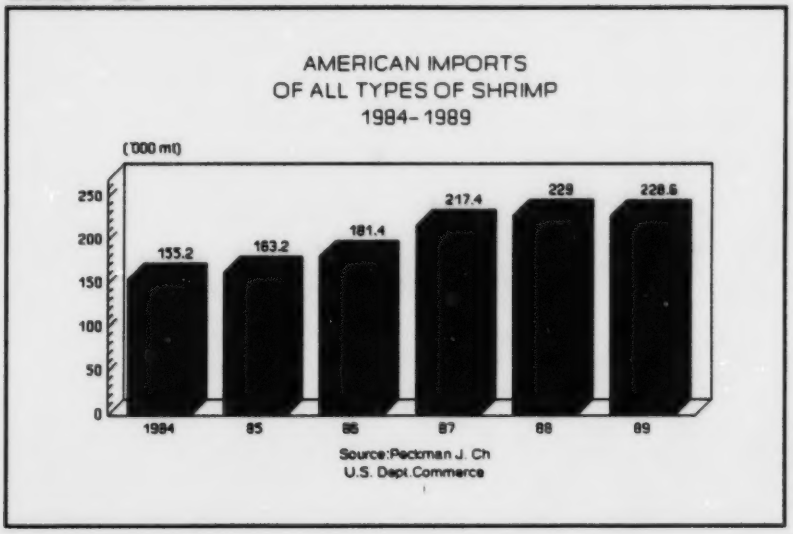
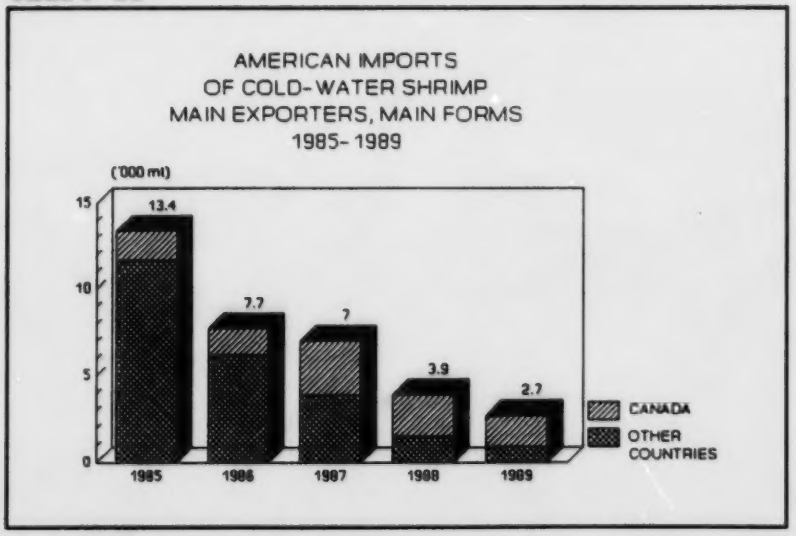


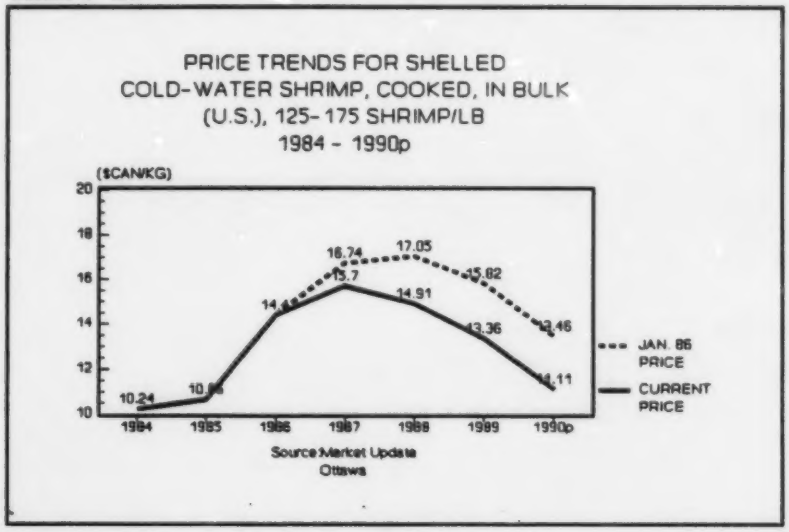
Chart 12

The situation for cold-water shrimp is quite different. Between 1985 and 1989, there was a decrease of 80% in U.S. imports of cold-water shrimp.



In the situation prevailing on the U.S. market in 1990, rising consumption favoured warm-water cultured shrimp. Although the American market for cold-water shrimp still exists, it is increasingly met by a rise in U.S. landings[1]. Overall, these changes have resulted in lower prices on this market.

Chart 13



In 1990, a kilogram of shrimp sold for an average price of $Can 11.11/kg, about $2.25/kg less than the previous year. Moreover, the increased value of our dollar in relation to U.S. currency caused the Canadian industry to lose $CAN 2.35/kg. The price of this product would have been $CAN 13.46/kg if the rate of exchange with the American dollar had remained the same as in January 1986.

For smaller cold-water shrimp, 250-350/lb, the price also fell in 1990, but to a lesser extent, going from $Can 11.51/kg in 1989 to $Can 10.96 in 1990, for a decline of 5%.

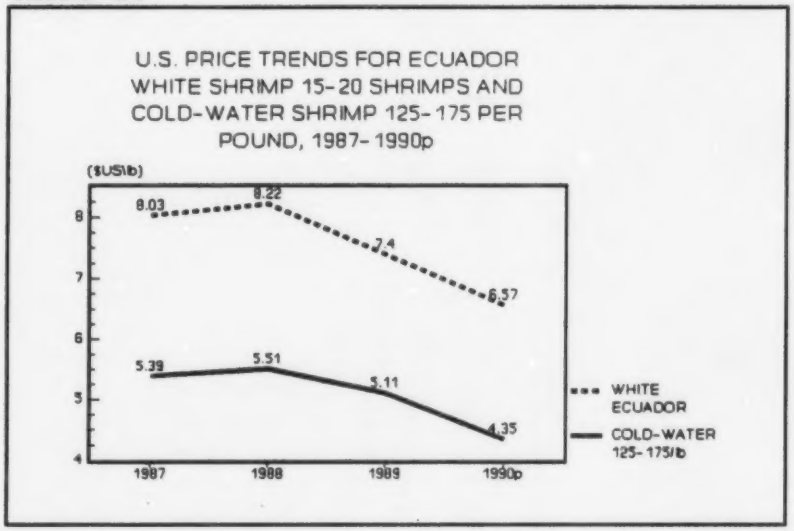
---

1 See Table 4.

1.4 INTRODUCTION AND IMPACT OF CULTURED SHRIMP

Tropical cultured shrimp is increasingly available on all markets, whether Japanese, American or European. The introduction of this new source of supply has upset the traditional market for shrimp.

Chart 14



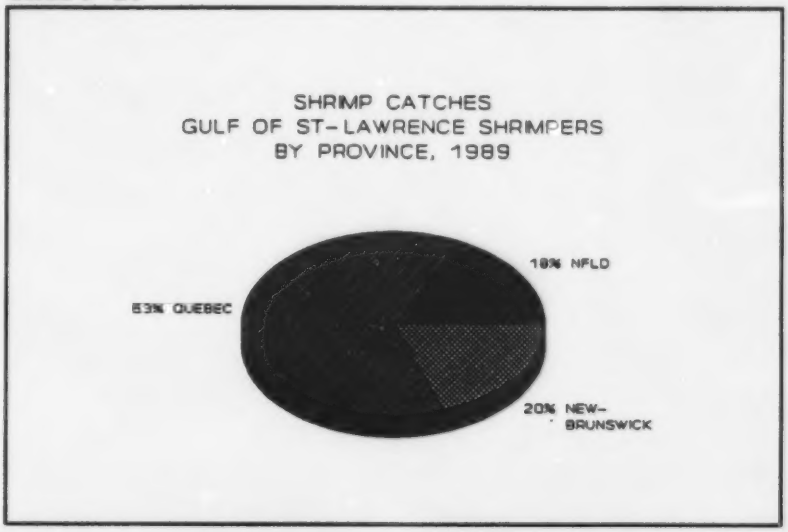
It is on the U.S. market, where consumers appear to make the least difference between shrimp products, that cultured shrimp has the greatest impact on cold-water shrimp, the price of which has followed the downward trend of prices for warm-water shrimp. On the European and particularly the Japanese markets, where a better distinction is made between products, the price for cold-water shrimp indicates attractive market opportunities. Given the decline in prices in traditional markets, the Canadian exporter might well explore market sectors that offer some potential.

After this brief look at what markets may hold for the industry in the future, let us now turn to what 1990 brought for fishermen in the Gulf of St. Lawrence.

2. PRIMARY SECTOR

But what about Gulf fishermen? How did changes in markets and biomass affect their business? To find answers to these questions, this section will deal with the profitability of Gulf shrimp fishermen, based in part on catch and on the price paid by processors.

Chart 15



Shrimpers fishing in the Gulf of St. Lawrence may be divided into three fleets depending on their home port, the Quebec fleet, responsible for 63% of the 1989 catch, the New Brunswick fleet and the Newfoundland fleet, with 20 and 18% of the catch respectively.

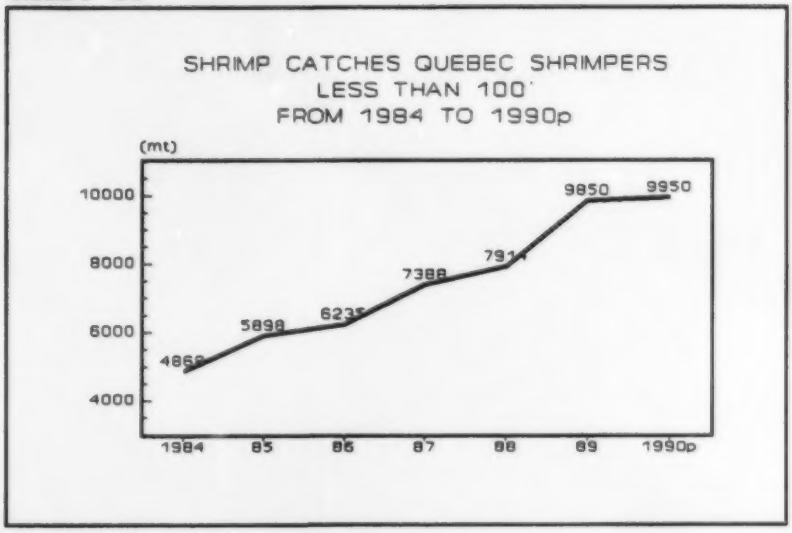
By shrimper, we mean any vessel under 100 feet in overall length, with mobile gear, fishing shrimp on the Sept-Iles, Anticosti North, Anticosti South, Esquiman and Estuary banks.

2.1 THE QUEBEC SHRIMPER FLEET

The number of active shrimpers in 1990 was 51. These fishing enterprises employed close to 205 skipper-fishermen and helpers in Quebec.

Shrimp landings have more than doubled in six years. For 1989, Quebec shrimpers landed 9,850 mt, and the latest statistics indicate an increase of 1% in 1990, to 9,950 mt.

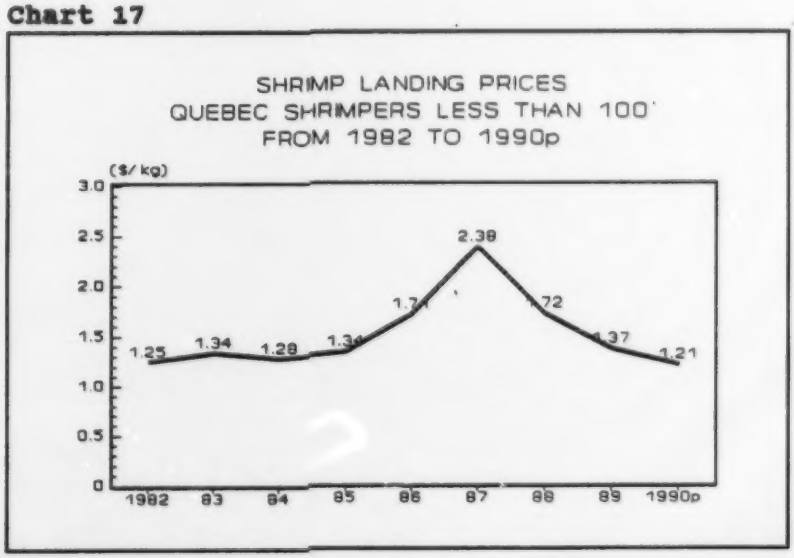
Chart 16



2.1.1 LANDING PRICES

Ten years later, shrimp prices are back to where they started. In 1990 as in 1981, the price was $1.21/kg. In the space of a year, prices thus dropped 12%.

Chart 17

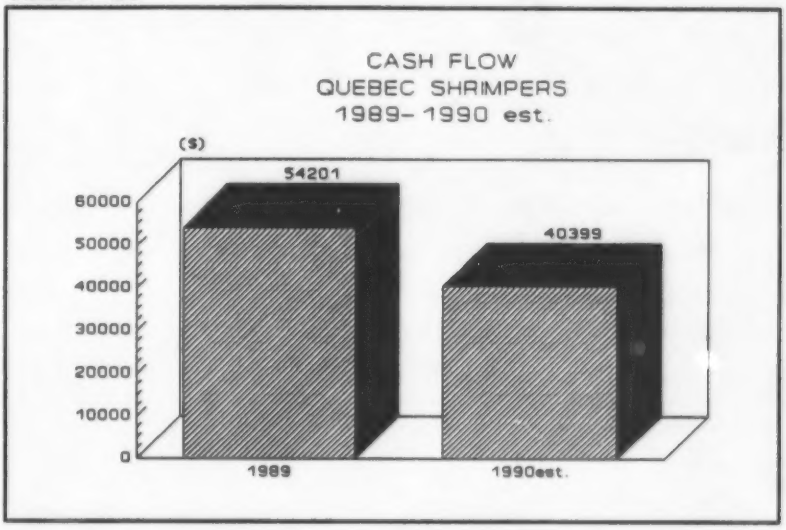


Taking into account the decline in landing prices and the greater volumes landed, we may estimate the financial performance of Quebec shrimpers for 1990.

2.1.2 FINANCIAL PERFORMANCE 1989 AND EXTRAPOLATED 1990

For Quebec shrimpers, cash flow[2] or the income of skipper-owners (before taxes) was down 25% in 1990 compared to 1989. Since shrimpers recorded cash flow of $54,201 in 1989, we estimate that this should be $40,399 for 1990.

Chart 18



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[2] Cash flow: cash flow is obtained by considering only funds actually received and paid out during the fiscal year. This gives us an indication of economic performance during the period in question. It represents the before-tax salary of a skipper-owner.

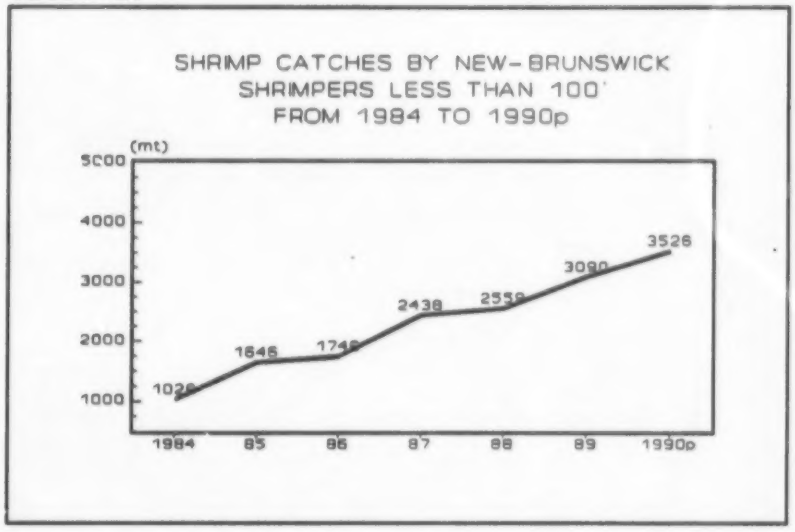
2.2 THE NEW BRUNSWICK SHRIMPER FLEET

The number of active shrimpers in New Brunswick in 1990 was 22. These fishing enterprises employed close to 100 skipper-fishermen and helpers in New Brunswick.

Shrimp accounted for 65%[3] of gross income for the average fishing enterprise in 1989. The two other most commonly fished species were cod and crab, with 22% and 8% respectively of the value of landings. Shrimp fishing activity by this fleet was mainly concentrated on the Esquiman Bank in 1989, with 54% of the shrimp catch coming from this bank.

Shrimp landings have more than tripled in six years. For 1989, New Brunswick shrimpers landed 3,090 mt, and the latest statistics indicate an increase of 14% in 1990, to 3,526 mt.

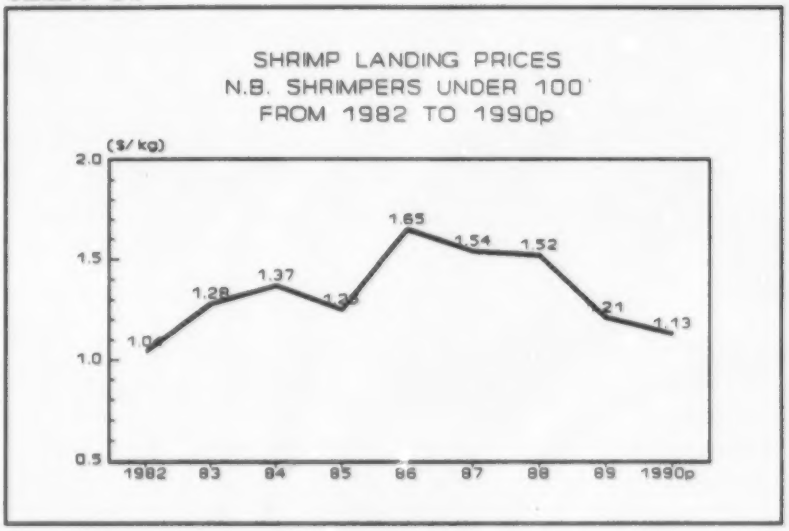
Chart 19



[3] See Table 16.

2.2.1 LANDING PRICES

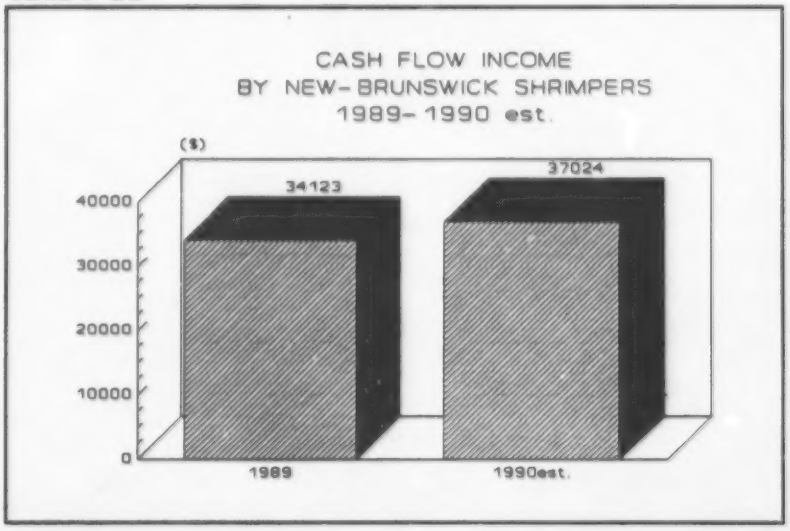
Chart 20



Shrimp prices have been dropping steadily since 1986. From $1.65/kg that year, they fell to $1.13/kg in 1990. Taking into account the decline in landing prices and the greater volumes landed, we may estimate the financial performance of New Brunswick shrimpers for 1990.

2.2.2 FINANCIAL PERFORMANCE 1989 AND EXTRAPOLATED 1990

Chart 21



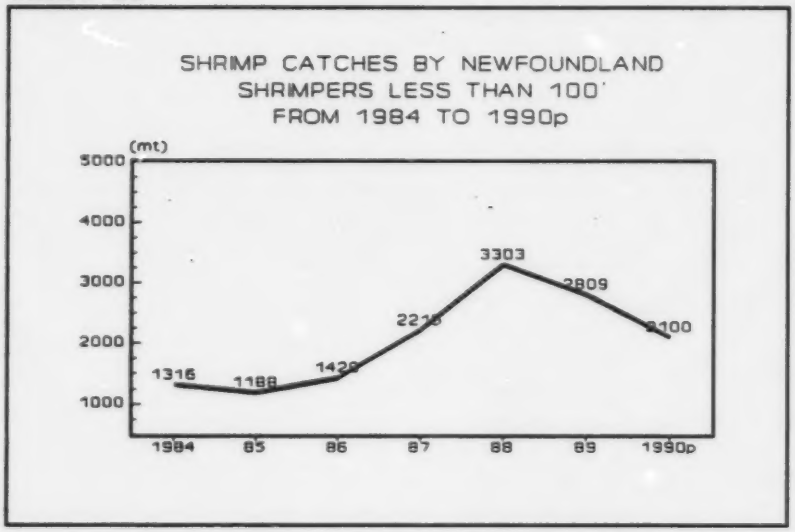
For New Brunswick shrimpers, cash flow, or the income of skipper-owners (before taxes), was up in 1990 compared to 1989. Since shrimpers recorded cash flow of $34,123 in 1989, we estimate that this should be $37,024 for 1990.

2.2 THE NEWFOUNDLAND SHRIMPER FLEET

The number of active shrimpers in Newfoundland in 1990 was 56. These fishing enterprises employed close to 225 skipper-fishermen and helpers in that region.

Cod accounted for 55% of gross income for the average fishing enterprise in 1989. It should be noted that this fleet fishes cod on individual quotas. Shrimp, which accounts for 42% of the value of landings, is the second most commonly fished species. Shrimp fishing activity by this fleet was entirely concentrated on the Esquiman Bank in 1989.

Chart 22

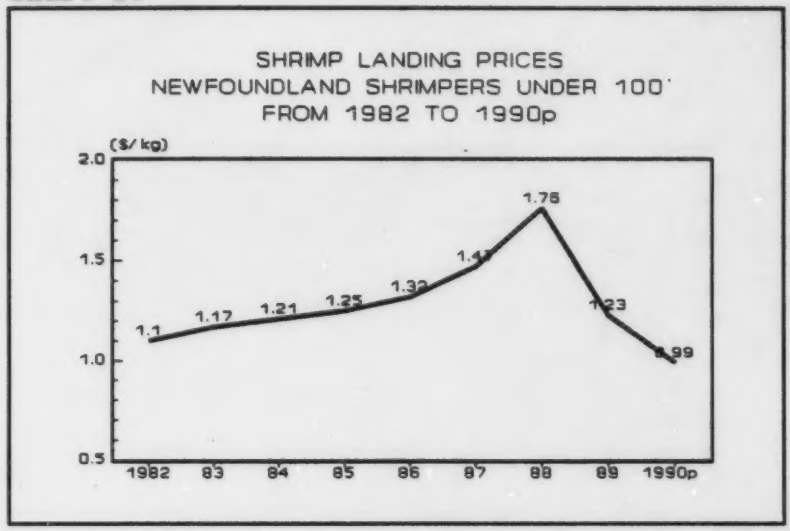


After recording increases from 1984 to 1988, shrimp landings by this fleet have declined over the past two years. For 1989, Newfoundland shrimpers caught 2,809 mt, a decrease of ~15% compared to 1988, and the latest statistics indicate a further decline (25%) in volume for 1990, to 2,100 mt.

2.2.1 LANDING PRICES

Shrimp prices in 1990 stood at $ .99/kg, 10% less than eight years ago. The drastic decline in prices since 1988 (a decrease of 43%) is no doubt partly responsible for the lower level of shrimp landings by this fleet.

Chart 23



2.3.2 FINANCIAL PERFORMANCE 1989 AND EXTRAPOLATED 1990

For Newfoundland shrimpers, cash flow was down 28% in 1990 compared to 1989. Since shrimpers recorded cash flow of $29,840 in 1989, we estimate that this should be $21,268 for 1990.

Chart 24

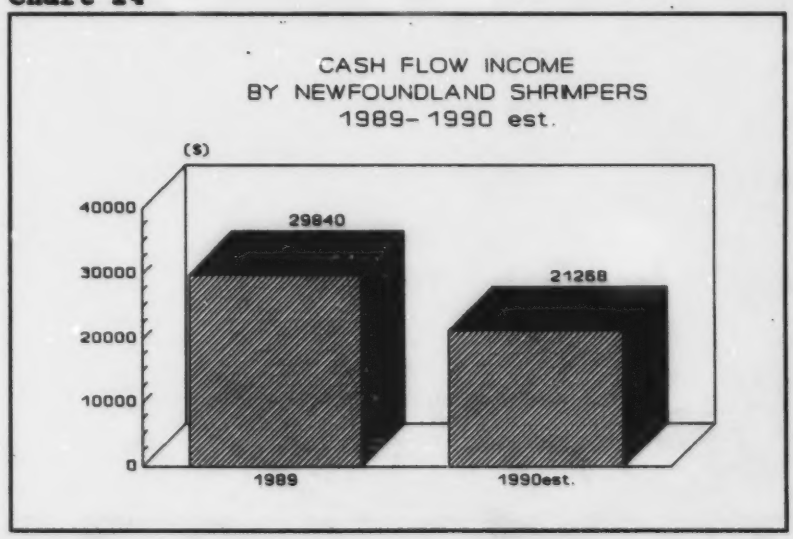


TABLE 1: Trends in world shrimp production (all species) ('000 mt)

YEAR	1981	1982	1983	1984	1985	1986	1987	1988	1989	1995p
Cultured	34	85	122	175	210	305	389	488	565	900
Fished	1595	1620	1622	1690	1771	1697	1659	1690	1680	1540
Total	1629	1705	1744	1865	1981	2002	2048	2178	2245	2440

P: Projections

Source: Peckman, J. Charles

TABLE 2: **Countries producing cultured shrimp (percentage of world production, production in metric tonnes, hectares in production and yield per hectare) in 1989.**

COUNTRY	Percentage of world production	Production (rounded) (m.t.)	Hectares in production	Kilos per hectare
China	29	165,000	145,000	1,138
Indonésia	16	90,000	250,000	360
Thailand	16	90,000	80,000	1,125
Philippines	9	50,000	200,000	250
Ecuador	8	45,000	70,000	643
Viet Nam	5	30,000	160,000	187
India	4	25,000	60,000	416
Taiwan	4	20,000	4,000	5,000
Central America and Caribbean	2	12,000	12,000	1,000
South America (excluding Ecuador)	1	7,000	8,000	875
Others	5	30,800	103,300	298
TOTAL	**99**	**564,800**	**1,092,300**	**517**

Source: Rosenberry B., 1990

TABLE 3: Breakdown of world cultured shrimp production by species in 1989

SPECIES	PERCENTAGE
- Giant tiger shrimp (Penaeus monodon)	33 %
- Fleshy prawn (Peanus chinensis)	28 %
- Whiteleg shrimp (Penaeus Vannamei)	10 %
- Others	29 %

Source: Rosenberry B., 1990

TABLE 4: Landings of cold-water shrimp, main producing countries, 1983-1989 ('000 mt)

COUNTRY	1983	1984	1985	1986	1987	1988	1989*
EUROPE							
Iceland	13.1	24.4	24.9	35.8	38.6	29.6	27.0
Greenland	41.2	41.5	52.4	64.1	64.4	65.1	63.0
Denmark	10.1	7.3	9.4	10.0	14.4	5.8	6.0
Norway	53.2	84.0	91.2	57.4	42.2	41.7	56.0
Faeroe Islands	7.4	9.3	11.6	10.0	10.7	14.3	10.0
U.S.S.R.	29.1	43.2	32.1	25.0	4.0	9.0	9.0
TOTAL Europe	**154.1**	**209.7**	**221.6**	**202.3**	**174.3**	**165.5**	**171.0**
UNITED STATES							
Alaska	3.4	4.3	2.0	2.2	1.2	1.1	-----
Washington	2.6	1.6	4.1	7.9	7.3	8.3	-----
Oregon	2.9	2.2	6.7	15.3	20.2	18.8	-----
California	0.5	0.7	1.5	3.1	3.9	5.0	-----
New England	1.4	2.9	4.1	4.6	5.0	3.0	-----
TOTAL U.S.	**10.8**	**11.7**	**18.4**	**33.1**	**37.6**	**36.3**	**40.6**
CANADA							
Atlantic	14.1	11.8	13.5	17.9	25.5	29.0	36.1
Pacific	0.7	0.9	1.2	1.3	3.3	2.7	2.7
TOTAL Canada	**14.8**	**12.7**	**14.7**	**18.9**	**28.8**	**31.7**	**38.8**
TOTAL	**179.7**	**234.1**	**254.7**	**254.3**	**240.7**	**233.4**	**250.4**

* Preliminary figures

Species: Pandelus borealis and Crangon crangon

Sources: 1- D.F..O. - Ottawa, Commercial and Market Analysis Division
2- Charles Peckham, Seafood International, october 1990

TABLE 5: Trends in Canadian exports of cold-water shrimp, by country (1985-1989)

Country / Value	1988		1989		1989 (Janv-Juin)		1990 (Janv-Juin)	
	Qty mt	Value $'000	Qty mt	Value $'000	Qty mt	Value $'000	Qty mt	Value $'000
United States	4,544	33,936,875	2,225	16,807,723	1,304	8,481,499	1,282	10,077,686
Japan	552	4,306,127	745	6,293,141	425	3,542,205	330	2,682,082
United Kingdom	514	3,403,579	278	2,498,367	148	1,187,528	72	511,270
Hong Kong	173	1,687,759	248	1,981,438	92	681,633	132	1,047,372
Sweden	216	1,995,032	853	5,759,174	350	2,715,803	492	3,711,023
Switzerland	210	2,718,300	282	3,678,562	111	1,639,564	103	1,315,745
Denmark	7,344	35,891,102	8,081	30,632,612	5,675	21,285,751	3,480	10,482,065
Iceland	215	487,368	340	1,081,470	16	124,549	219	352,811
Norway	10	50,357	104	1,157,141	-0-	-0-	838	2,942,413
West Germany	277	3,363,429	209	1,353,733	14	96,616	81	324,367
Others	519	2,106,137	414	2,778,835	242	1,570,545	243	1,669,170
TOTAL	**14,575**	**89,946,065**	**13,780**	**74,022,196**	**8,377**	**41,325,693**	**7,272**	**35,116,004**

Source: Statistics Canada, International Trade

TABLE 6: U.S imports of all types of shrimp, in thousands of metric tonnes, by main exporting country, 1984-1989p

Northern hemisphere:

ORIGIN	1984	1985	1986	1987	1988	1989p
Canada	1.3	1.9	1.6	3.2	2.4	2.0
Norway	5.8	7.2	3.1	2.0	0.6	0.1
Greenland	-	0.1	-	0.0	0.0	-
Iceland	-	2.0	0.7	0.2	0.0	0.0
Denmark	-	0.4	0.2	0.3	0.0	0.0
United Kingdom	-	0.9	1.7	1.2	0.5	0.4
Holland	-	0.1	0.1	0.1	0.0	0.0
USSR	-	0.2	0.3	-	-	-
Sub-total	7.1	12.8	7.7	7.0	3.5	2.5

Main suppliers:

China	1.4	3.1	9.4	19.2	47.4	48.6
Ecuador	21.1	19.1	28.1	46.0	47.3	37.1
Mexico	37.1	30.6	33.8	39.1	28.9	28.0
India	10.5	10.9	11.1	12.9	14.6	13.1
Thailand	8.2	11.1	10.9	10.9	10.8	21.6
Brazil	9.0	11.5	9.0	7.5	9.1	7.5
Taiwan	8.3	13.4	15.7	16.8	7.9	3.3
Panama	7.4	8.9	9.9	7.5	6.7	8.0
Pakistan	4.9	5.1	6.5	8.0	6.6	5.0
Bangladesh	1.5	1.9	2.8	4.2	5.3	5.4
Honduras	2.4	2.4	2.4	3.6	4.2	3.4
Venezuela	2.3	3.0	4.1	2.7	4.1	5.6
El Salvador	3.8	2.8	3.4	3.3	3.7	2.9
Peru	3.0	2.1	1.7	2.7	1.9	1.7
Sub-total	120.9	125.9	148.8	184.4	198.5	191.2

Other countries	27.2	24.5	24.9	26.0	27.0	34.9
TOTAL	**155.2**	**163.2**	**181.4**	**217.4**	**229.0**	**228.6**

Source: Peckman J. Charles and U.S. Department of Commerce

TABLE 7: U.S. imports of shelled and unshelled, fresh or frozen, cold-water and warm-water shrimp, by selected exporting countries, 1985-1989

Year	1985	1986	1987	1988	1989
Canada	1737	1537	3094	2362	1823
Greenland	117	0	18	37	0
Iceland	1977	711	266	45	71
Sweden	343	9	0.2	10	3.5
Norway	6865	3044	1988	556	70.3
Fairoe Islands	0	0	0	64	65
Denmark	385	217	304	59	12.5
United Kingdom	910	1674	1168	544	436
Netherlands	106	68	49	42	12
Belgium	138	48	25	159	62
France	589	72	79	5	0
W. Germany	0	21.5	13.7	0	28
Switzerland	45	89	30	83	101
E. Germany	0	0.5	0	17	16
U.S.S.R.	201	250	0	0	0
Sub-total	13667	7741	7017	3946	2701
TOTAL	155228	174234	208637	221502	222764

Source: DFO Ottawa, Commercial and Market Analysis Division
(Comm. 114-4545: HS 0306130020 and 0306230020)
(Comm. 114-4557: HS 0306130040 and 0306230040)
(Comm. 114-4562: HS 1605201010, 1605201030 and 05201050)

TABLE 8: Price trends for selected cold-water shrimp products, 1984-1990

		unit	1984	1985	1986	1987	1988	1989	1990
1	Whole, cooked 90/120 shrimp/kg European market (France)	$CAN/Kg	[redacted]	3.26	4.29	5.51	5.54	4.46	5.04
2	Shelled, cooked 250-350 shrimp/lb U.S. market	$CAN/Kg	[redacted]	[redacted]	14.11	14.38	12.43	11.51	10.96
3	Shelled, cooked, bulk 125-175 shrimp/lb U.S. market	$CAN/Kg $CAN/Kg const	10.24 [redacted]	10.66 [redacted]	14.40 14.40	15.70 16.74	14.91 17.05	13.36 15.82	11.11 13.46

Source: 1- European Fish Price Report
2- Seafood Price-Current
3- Market Update

TABLE 9: Price trends for cultured shrimp, 1987-1990, for selected products

Species/Origin Product/f.o.b Price/Form	TIGER ASIA Headed $US/lb		Bangladesh U. S. 16/20 CNT		ECUADOR WHITE Headed, frozen, raw $US/lb		16/20 CNT	
YEAR	1987	1988	1989	1990	1987	1988	1989	1990
JANUARY	6.40	6.76	6.90	4.75	7.41	7.90	8.33	5.84
FEBRUARY	6.45	6.95	6.75	5.38	7.44	8.05	8.17	5.87
MARCH	6.70	7.06	6.00	5.89	7.67	8.16	8.00	6.42
APRIL	----	7.18	6.25	----	8.20	8.23	7.95	6.45
MAY	----	7.26	5.17	----	8.62	8.17	7.63	6.45
JUNE	----	7.34	5.30	----	8.73	8.18	7.60	6.57
JULY	7.83	7.26	5.46	6.71	8.61	8.21	7.58	7.11
AUGUST	7.68	7.02	5.25	6.70	8.43	8.39	7.33	7.32
SEPTEMBER	7.55	6.98	4.74	----	8.00	8.35	6.95	----
OCTOBER	7.15	6.95	4.73	----	7.75	8.30	6.66	----
NOVEMBER	6.78	6.97	4.73	----	7.73	8.39	6.48	----
DECEMBER	6.75	6.80	4.68	----	7.80	8.40	6.19	----
ANNUAL AVERAGE	7.03	7.04	5.49	5.88	8.03	8.22	7.40	6.57

Source: Seafood Price current et Peckman, J. Charles

TABLE 10: Japanese imports of cold-water shrimp, in thousands of metric tonnes, by main exporting country, 1984-1989p

ORIGIN	1985	1986	1987	1988	1989	1989[1]	1990[1]
Greenland	6.3	9.5	12.9	14.2	16.2	10.5	9.6
Iceland	1.7	2.1	3.3	3.6	3.0	1.9	1.7
Canada	0.2	0.7	1.2	1.6	3.0	1.9	1.1
Denmark	2.5	1.7	2.0	2.7	2.7	2.3	1.2
Norway	4.3	3.1	2.5	3.8	2.3	1.8	2.4
Korea	2.3	3.3	2.1	2.3	1.7	---	---
U.S.S.R.	0.5	0.4	0.6	0.5	0.9	---	---
U.S.A.	0.3	0.4	0.3	0.4	0.8	---	---
France	0.6	0.7	0.8	0.5	0.2	0.2	0.04
TOTAL	18.7	21.9	25.7	29.6	30.8	18.5[2]	16.1[2]

1- For the period January-August

2- Total for selected countries (Canada, Iceland, Norway, Denmark, France, Greenland).

Source: Globefish Highlights, January 1990, page 3

Japanese Fisheries Market Report, october 1990, page 17

TABLE 11. Japanese imports of all types of shrimp, in thousands of metric tonnes, by main exporting country, 1984-1989

ORIGIN	1984	1985	1986	1987	1988	1989
Indonesia	24.1	24.4	27.7	30.8	38.6	50.0
Thailand	6.7	7.4	8.9	11.6	21.9	38.8
China	10.3	10.7	18.7	27.9	38.0	37.2
India	38.5	36.3	36.7	36.5	32.0	29.7
Philippines	5.1	6.0	8.4	11.8	18.6	18.4
Viet Nam	5.1	7.0	9.4	11.7	16.5	15.9
Greenland	2.6	6.2	9.8	12.9	13.9	15.9
Taiwan	16.5	21.8	37.8	49.2	20.6	8.9
Others	60.2	63.1	55.4	53.5	58.1	48.6
TOTAL	**169.1**	**182.9**	**212.8**	**245.9**	**258.2**	**263.4**

Source: Seafood International, october 1990, page 25

TABLE 12: Price trends for cold-water shrimp on the japanese market

2L: 50-70 shrimp/Kg
L: 70-90 shrimp/Kg
MS: 90-110 shrimp/Kg
$CAN/Kg

	2L			L	MS
	Yen	$CDN constant jan. 88	$CDN current	$CDN current	$CDN current
April 1988	1975	19.79	19.46	----	6.27
October 1988	2350	23.55	22.90	----	6.26
April 1989	2400	24.05	21.46	----	----
October 1989	2450	24.55	20.20	----	----
April 1990	2550	25.55	18.63	----	----
July 1990	2800	28.06	21.88	8.20	6.64
October 1990	2800	28.06	-----	----	

Source: Tsukiji Report
Japanese Fisheries Market Report

Constant exchange rate: 99.78 Yen = $CAN 1, January 1988

TABLE 13: Catch record of Quebec shrimpers under 100' and average price per kilo paid to fishermen (1981-1990p)

YEAR	CATCH (mt)	PRICE[2] ($/Kg)	YEAR	CATCH (mt)	PRICE[2] ($/KG)
1981	4,606	1.21	1986	6,235	1.71
1982	5,549	1.25	1987	7,388	2.38
1983	5,856	1.34	1988	7,914	1.72
1984	4,868	1.28	1989	9,850	1.37
1985	5,898	1.34	1990[1]	9,950p	1.21

Sources: 1- Extrapolation of landings as of November 7, 1990, Resource Allocation Division.

2- DFO - Quebec, Economics, Statistics and Informatics Branch.

TABLE 14: **Catch record of New Brunswick shrimpers under 100' and average price per kilo paid to fishermen (1982-1990p)**

YEAR	CATCH (mt)	PRICE[2] ($/Kg)	YEAR	CATCH (mt)	PRICE[2] ($/KG)
1982	-----	1.04	1987	2,438	1.54
1983	-----	1.28	1988	2,559	1.52
1984	1,026	1.37	1989	3,090	1.21
1985	1,646	1.25	1990[1]	3,526	1.13
1986	1,746	1.65			

Sources: 1- Extrapolation of catch based on quota report, 19/12/90.

2- DFO- GULF REGION

TABLE 15: **Catch record of Newfoundland shrimpers under 100' and average price per kilo paid to fishermen (1982-1990p)**

YEAR	CATCH (mt)	PRICE[2] ($/Kg)	YEAR	CATCH (mt)	PRICE[2] ($/KG)
1982	-----	1.10	1987	2,215	1.47
1983	-----	1.17	1988	3,303	1.76
1984	1,316	1.21	1989	2,809	1.23
1985	1,188	1.25	1990[1]	2,100[3]	0.99
1986	1,429	1.32			

Sources: 1- Extrapolation of catch based on quota report, 19/12/90.

2- DFO - Gulf Region

3- Not including Lower North Shore shrimpers.

TABLE 16: Gulf of St. Lawrence landings of shrimp by species (average fishing enterprise) and by province, 1989

	Quebec		Newfoundland		New Brunswick	
Name of Species	Quantity Kg	Value $	Quantity Kg	Value $	Quantity Kg	Value $
Shrimp	209,355	279,127	58,707	80,616	155,908	195,413
Cod	10,096	5,497	214,235	105,235	133,559	59,149
Redfish	5,964	1,858	4,832	1,393	17,349	4,852
Atlantic halibut	503	1,291	24	40	20	60
Sole (all species)	1,812	967	3,633	2,255	5,334	2,968
Turbot	5,198	3,514	1,902	960	5,670	3,483
Hake	3	1	93	11	46	10
Herring	134	13	154	0	0	0
Monkfish	5	10	0	0	0	0
Crab	0	0	0	0	5,426	15,520
Other species	0	0	2,718	576	1,663	813
TOTAL	233,070	292,280	286,296	191,086	325,066	282,268

Sources: Quebec data: Survey and compilation by Economic Services Division, Quebec Region

Newfoundland and New Brunswick data: Survey and compilation by Economic Services Division, Gulf Region.

TABLE 17: Income statement for Gulf of St. Lawrence shrimpers (average fishing enterprise), by province, 1989

	QUEBEC	NEWFOUNDLAND	NEW BRUNSWICK
INCOME			
Sales of fish	292,280	191,086	282,268
EXPENSES			
Fuel	40,010	18,007	44,411
Ice and salt	3,326	51	4,658
Provisions	6,023	3,215	8,225
Unemployment insurance	1,147	290	193
CSST	5,083	95	0
Other labour	1,359	1,831	5,759
Other variable costs	2,581	5,290	290
Variable operating costs	59,528	28,779	63,536
Maint.Repair exp.	14,994	9,147	13,667
Engine maint. rep.	16,135	16,498	15,911
Total fixed costs	21,559	15,395	21,774
Crew wages	87,573	56,784	92,900
TOTAL EXPENSES	199,789	126,603	207,789
GROSS MARGIN	92,491	64,483	74,478
Repayment of capital	23,975	21,982	5,294
Interest expense	14,315	12,661	35,062
CASH FLOW	54,201	29,840	34,122
Payments due	------	------	93,065
CASH FLOW (based on payments due)	------	------	(18,587)

Sources: Quebec data: Survey and compilation by Economic Services Division, Quebec Region

Newfoundland and New Brunswick data: Survey and compilation by Economic Services Division, Gulf Region.

TABLEAU 18: Estimated cash flow of Gulf of St. Lawrence shrimpers under 100' overall length (average fishing enterprise), by province, 1990

	QUEBEC[1]	NEWFOUNDLAND[2]	NEW BRUNSWICK[2]
INCOME			
Sales of fish	272,573	179,401	286,861
COSTS			
Fixed operating cost	21,559	15,395	21,774
Maintenance cost	14,994	9,147	13,588
Gear costs	16,135	16,498	15,819
Variable operating costs A	13,495	7,557	10,446
Variable operating Costs B	46,033	21,222	52,785
Labour	81,668	53,312	94,412
Finance charges	38,290	34,643	41,012
Total Costs	232,174	157,774	249,836
CASH FLOW	40,399	21,628	37,024

1- Estimate as of November 9, 1990. 2. Estimated as of 31/12/90.

Source: Quebec data: Costs and Earnings 1989, Pierre Lemieux, DFO Quebec

Newfoundland and New Brunwick data: Survey and compilation by Economic Sercices Division, Gulf Region.

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DIVISION DES SERVICES ECONOMIQUES

ECONOMIC SERVICES DIVISION

Ministère des Pêches et des Océans - Région du Québec
Department of Fisheries and Oceans - Quebec Region

(FÉVRIER 1991)

Liste des rapports d'étude

1982

82-1 Répertoire des programmes d'aide gouvernementale à l'industrie des pêches au Québec; 101 pages (non disponible).

1983

83-1 Processus d'évaluation et de prise de décision pour l'attribution des permis de pêche pour les bateaux de 45 pieds et plus; Document de travail; 13 pages; (non disponible).

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83-1 -

83-2 -

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